

PAT-NO: JP362074564A  
DOCUMENT-IDENTIFIER: JP 62074564 A  
TITLE: VIBRATION ISOLATOR FOR HANDY POWER TOOL  
PUBN-DATE: April 6, 1987

INVENTOR-INFORMATION:  
NAME  
OTSU, SHINKI  
KAWAKAMI, HIROSHI

ASSIGNEE-INFORMATION:  
NAME COUNTRY  
HITACHI KOKI CO LTD N/A

APPL-NO: JP60215924  
APPL-DATE: September 27, 1985

INT-CL (IPC): B24B023/00  
US-CL-CURRENT: 451/344, 451/357

ABSTRACT:

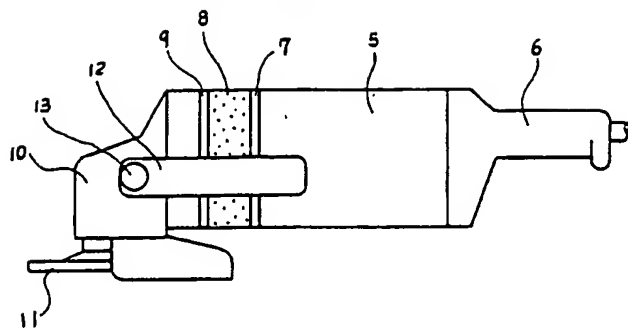
PURPOSE: To obtain a vibration isolator for a disc grinder or the like while is excellent in manipulatability, by coupling a drive section to which a grindstone or the like is attached, with a motor section, and by coupling the drive shafts with each other by means of a universal joint.

CONSTITUTION: A motor section 5 to which a handle section 6 is secured is fixed by means of screws to a drive section 10 through the intermediary of a resilient member 8 to which stationary plates 7, 9 are bonded. Further, the drive shaft 14 of the motor section 5 is coupled with the drive shaft 19 of the drive section 10 through the intermediary of a key joint 17 by means

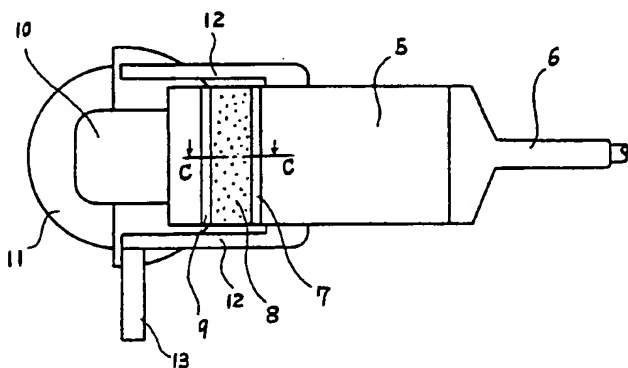
of two  
 cross joints 16, 18. Thus, the mass  $M_{<SB>2</SB>}$  of the handle  
 section becomes  
 larger, the mass  $M_{<SB>2</SB>}$  being such as  $M_{<SB>2</SB>} \approx M_{<SB>1</SB>}$   
 where  
 $M_{<SB>1</SB>}$  is the mass of the grindstone, and therefore,  $M'$  in the  
 following  
 equation:  $M' = M_{<SB>1</SB>} \cdot M_{<SB>2</SB>} / (M_{<SB>1</SB>} + M_{<SB>2</SB>})$ , becomes  
 larger.  
 Accordingly, the inherent frequency  $W'$  in the following equation:  
 $W' = (K/M')^{1/2}$ , may be made lower even if the spring constant  
 $K$  is made  
 larger. That is, even if the one having a high hardness or a large  
 spring  
 constant  $K$  is used as a resilient member, vibration damping may be  
 made  
 satisfactory and the manipulatability may be also made satisfactory.  
 Further,  
 due to the provision of the universal joint no problem is caused in  
 the  
 operation of the drive section even if the resilient member 8 is  
 deformed.

COPYRIGHT: (C)1987, JPO&Japio

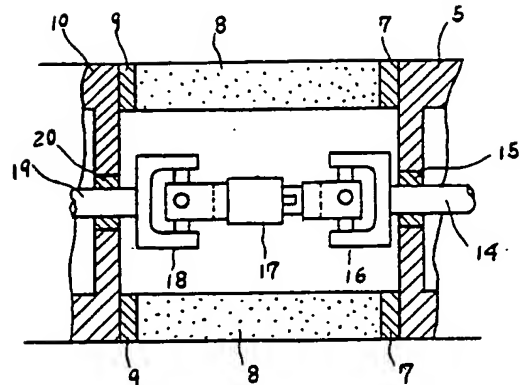
第1図



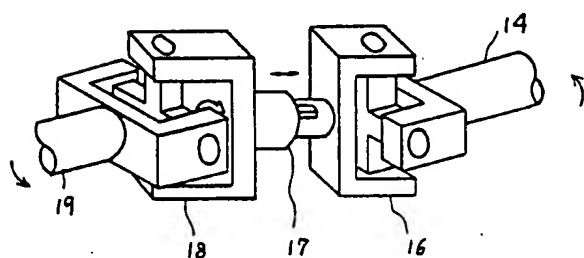
第2図



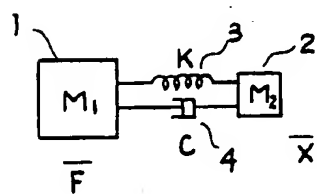
第3図



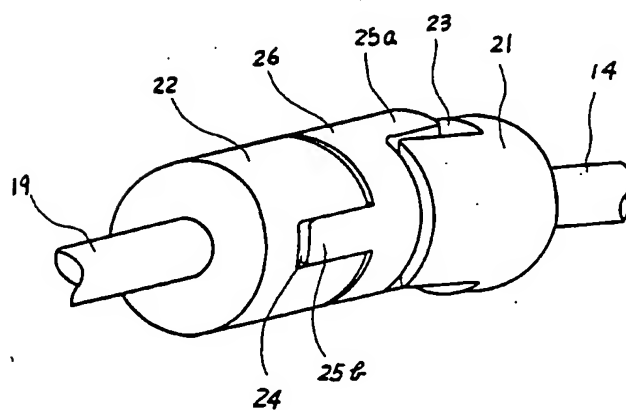
第4図



第5図



第7図



第6図

